```
RRRRRRRRRRRR     UUU         UUU  NNN         NNN     OOOOOOOOO     FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN         NNN     OOOOOOOOO     FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN         NNN     OOOOOOOOO     FFFFFFFFFFFFFFF  FFFFFFFFFFFFFFF
RRR         RRR  UUU         UUU  NNN         NNN  OOO         OOO  FFF              FFF
RRR         RRR  UUU         UUU  NNN         NNN  OOO         OOO  FFF              FFF
RRR         RRR  UUU         UUU  NNN         NNN  OOO         OOO  FFF              FFF
RRR         RRR  UUU         UUU  NNNNNN      NNN  OOO         OOO  FFF              FFF
RRR         RRR  UUU         UUU  NNNNNN      NNN  OOO         OOO  FFF              FFF
RRR         RRR  UUU         UUU  NNNNNN      NNN  OOO         OOO  FFF              FFF
RRRRRRRRRRRR     UUU         UUU  NNN   NNN   NNN  OOO         OOO  FFFFFFFFFFFF     FFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN   NNN   NNN  OOO         OOO  FFFFFFFFFFFF     FFFFFFFFFFFF
RRRRRRRRRRRR     UUU         UUU  NNN   NNN   NNN  OOO         OOO  FFFFFFFFFFFF     FFFFFFFFFFFF
RRR   RRR        UUU         UUU  NNN      NNNNNN  OOO         OOO  FFF              FFF
RRR   RRR        UUU         UUU  NNN      NNNNNN  OOO         OOO  FFF              FFF
RRR   RRR        UUU         UUU  NNN      NNNNNN  OOO         OOO  FFF              FFF
RRR      RRR     UUU         UUU  NNN         NNN  OOO         OOO  FFF              FFF
RRR      RRR     UUU         UUU  NNN         NNN  OOO         OOO  FFF              FFF
RRR      RRR     UUU         UUU  NNN         NNN  OOO         OOO  FFF              FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN         NNN     OOOOOOOOO     FFF              FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN         NNN     OOOOOOOOO     FFF              FFF
RRR         RRR  UUUUUUUUUUUUUUU  NNN         NNN     OOOOOOOOO     FFF              FFF
```

```
_$2

Sym
---
NDX
NDX
NUM
NUM
OPE
OUT
PAC
PAC
PAC
PAC
PAC
PAC
PAC
PAD
PAG
PAG
PAG
PAG
PAG
PAG
PAG
PER
PUT
RCO
RIN

RLI
RNO
RNO
RTY
SAV
STR
STR
STR
STR
STR
STR

STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
STR
```

```
**FILE**ID**LSTOPS
```

```
LL            SSSSSSSS  TTTTTTTTTT    OOOOOO    PPPPPPPP        SSSSSSSS
LL            SSSSSSSS  TTTTTTTTTT    OOOOOO    PPPPPPPP        SSSSSSSS
LL          SS              TT      OO      OO  PP      PP  SS
LL          SS              TT      OO      OO  PP      PP  SS
LL          SS              TT      OO      OO  PP      PP  SS
LL          SS              TT      OO      OO  PP      PP  SS
LL            SSSSSS        TT      OO      OO  PPPPPPPP      SSSSSS
LL            SSSSSS        TT      OO      OO  PPPPPPPP      SSSSSS
LL                  SS      TT      OO      OO  PP                  SS
LL                  SS      TT      OO      OO  PP                  SS
LL                  SS      TT      OO      OO  PP                  SS      ....
LL                  SS      TT      OO      OO  PP                  SS      ....
LLLLLLLLLL  SSSSSSSS        TT        OOOOOO    PP          SSSSSSSS        ....
LLLLLLLLLL  SSSSSSSS        TT        OOOOOO    PP          SSSSSSSS        ....

LL            IIIIII      SSSSSSSS
LL            IIIIII      SSSSSSSS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II      SS
LL              II        SSSSSS
LL              II        SSSSSS
LL              II              SS
LL              II              SS
LL              II              SS
LL              II              SS
LLLLLLLLLL    IIIIII    SSSSSSSS
LLLLLLLLLL    IIIIII    SSSSSSSS
```

```
     0001 0 %TITLE 'O/P text to left of document'
     0002 0 MODULE lstops ( IDENT = 'V04-000'
   P 0003 0                 %BLISS32[, ADDRESSING_MODE (EXTERNAL    = LONG_RELATIVE,
     0004 0                                             NONEXTERNAL = LONG_RELATIVE)]
     0005 0                 ) =
     0006 1 BEGIN
     0007 1
     0008 1 !****************************************************************************
     0009 1 !*                                                                          *
     0010 1 !*  COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                                  *
     0011 1 !*  DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                   *
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     0018 1 !*  OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY    *
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     0020 1 !*                                                                          *
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     0022 1 !*  AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT    *
     0023 1 !*  CORPORATION.                                                             *
     0024 1 !*                                                                          *
     0025 1 !*  DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS    *
     0026 1 !*  SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.                  *
     0027 1 !*                                                                          *
     0028 1 !*                                                                          *
     0029 1 !****************************************************************************
     0030 1
     0031 1 !++
     0032 1 ! FACILITY:      DSR (Digital Standard RUNOFF) / DSRPLUS
     0033 1 !
     0034 1 ! ABSTRACT:      Prefixes a line with optional listing information.
     0035 1 !
     0036 1 ! ENVIRONMENT:   Transportable
     0037 1 !
     0038 1 ! AUTHOR:        R.W.Friday        CREATION DATE: December, 1978
     0039 1 !
     0040 1
```

```
;    42         0041   1 %SBTTL 'Revision History'
;    43         0042   1 !
;    44         0043   1 ! MODIFIED BY:
;    45         0044   1 !
;    46         0045   1 !         010     REM00010        Ray Marshall    31-May-1984
;    47         0046   1 !                 Find tuning -- made output lines numbers start at 1 instead
;    48         0047   1 !                    of starting at 0.
;    49         0048   1 !
;    50         0049   1 !         009     REM00009        Ray Marshall    16-May-1984
;    51         0050   1 !                 Added support for outputting the output line number.
;    52         0051   1 !
;    53         0052   1 !         008     RER00008        Ron Randall     07-Mar-1983
;    54         0053   1 !                 Global edit of all modules. Updated module names, idents,
;    55         0054   1 !                 copyright dates. Changed require files to BLISS library.
;    56         0055   1 !
;    57         0056   1 !--
;    58         0057   1
;      60          0058   1 %SBTTL 'Module Level Declarations'
;      61          0059   1
;      62          0060   1 !
;      63          0061   1 ! TABLE OF CONTENTS:
;      64          0062   1 !
;      65          0063   1 FORWARD ROUTINE
;      66          0064   1     lstops : NOVALUE,
;      67          0065   1     iseque : NOVALUE,
;      68          0066   1     oseque : NOVALUE;
;      69          0067   1
;      70          0068   1 !
;      71          0069   1 ! INCLUDE FILES:
;      72          0070   1 !
;      73          0071   1 LIBRARY 'NXPORT:XPORT';                  ! XPORT Library
;      74          0072   1 REQUIRE 'REQ:RNODEF';                    ! RUNOFF variant definitions
;      75          0203   1
;      76        U 0204   1 %IF DSRPLUS %THEN
;      77        U 0205   1 LIBRARY 'REQ:DPLLIB';                    ! DSRPLUS BLISS Library
;      78          0206   1 %ELSE
;      79          0207   1 LIBRARY 'REQ:DSRLIB';                    ! DSR BLISS Library
;      80          0208   1 %FI
;      81          0209   1
;      82          0210   1 !
;      83          0211   1 ! EXTERNAL REFERENCES:
;      84          0212   1 !
;      85          0213   1 EXTERNAL
;      86          0214   1     FRA : FIXED_STRING,
;      87          0215   1     GCA : GCA_DEFINITION,
;      88          0216   1     PHAN : PHAN_DEFINITION,
;      89          0217   1     TSF : TSF_DEFINITION;
;      90          0218   1
;      91          0219   1 EXTERNAL ROUTINE
;      92          0220   1     CONVBB;
;      93          0221   1
;     95          0222  1 %SBTTL 'LSTOPS -- main control routine'
;     96          0223  1 GLOBAL ROUTINE lstops (option_list, blank_line) : NOVALUE =
;     97          0224  1
;     98          0225  1 !++
;     99          0226  1 ! FUNCTIONAL DESCRIPTION:
;    100          0227  1 !
;    101          0228  1 !       This routine is used to format the columns that preceed the normal
;    102          0229  1 !       document.  These columns typically contain change bars, the draft flag,
;    103          0230  1 !       sequence numbers, and/or the entire document is shifted to the right.
;    104          0231  1 !
;    105          0232  1 !       These columns have to be set up for each and every line that RUNOFF
;    106          0233  1 !       writes.  In some cases, however, what is wanted is not the actual
;    107          0234  1 !       options, but simply sufficient spaces to skip over them; that can
;    108          0235  1 !       occur, for example, when LOUT has to overprint the line to do
;    109          0236  1 !       underlining, etc.  LSTOPS generates the requested information, or
;    110          0237  1 !       spaces, as applicable.
;    111          0238  1 !
;    112          0239  1 !       NOTE: This entire routine can be replaced by a simple "RETURN"
;    113          0240  1 !             if the listing options are not wanted ever.
;    114          0241  1 !
;    115          0242  1 ! FORMAL PARAMETERS:
;    116          0243  1 !
;    117          0244  1 !       OPTION_LIST indicates which listing options are to be processed.
;    118          0245  1 !       BLANK_LINE is TRUE if the line is a blank one, FALSE otherwise.
;    119          0246  1 !
;    120          0247  1 ! IMPLICIT INPUTS:
;    121          0248  1 !
;    122          0249  1 !       FRA is implicitly set up to point to where the options are to be
;    123          0250  1 !       generated.
;    124          0251  1 !       TSF describes the record for which the options are to be generated.
;    125          0252  1 !
;    126          0253  1 ! IMPLICIT OUTPUTS:
;    127          0254  1 !
;    128          0255  1 !       The listing options are written into FRA, thereby lengthening
;    129          0256  1 !       that fixed string.
;    130          0257  1 !
;    131          0258  1 ! ROUTINE VALUE:
;    132          0259  1 ! COMPLETION CODES:       None
;    133          0260  1 !
;    134          0261  1 ! SIDE EFFECTS:           None
;    135          0262  1 !--
;    136          0263  1
;    137          0264  2     BEGIN
;    138          0265  2     LOCAL
;    139          0266  2         BARS;
;    140          0267  2
;    141          0268  2     IF  .BLANK_LINE
;    142          0269  2     THEN
;    143          0270  2
;    144          0271  2         !This is a quick test to avoid lots of processing for empty lines.
;    145          0272  2         IF  .OPTION_LIST EQL LSTOPS_NONE
;    146          0273  2         THEN
;    147          0274  2             !Put nothing on blank lines.
;    148          0275  2             RETURN;
;    149          0276  2
;    150          0277  2     !Decide which change bar information to use: that which applies to blank lines,
;    151          0278  2     !or that which applies to text on lines.
;     152     0279  2          IF   .BLANK_LINE
;     153     0280  2          THEN
;     154     0281  2              !Use the change bar information that applies to white space.
;     155     0282  2              BARS = .TSF_BARS
;     156     0283  2          ELSE
;     157     0284  2              !Use the change bar information that applies to text.
;     158     0285  2              BARS = .TSF_H_BARS;
;     159     0286  2
;     160     0287  2          IF   NOT .BLANK_LINE                    !(Avoid shifting blank lines to the right because of /RIGHT)
;     161     0288  3              OR (.BARS AND .OPTION_LIST<BAR__>)     !
;     162     0289  3              OR (.GCA_DEBUG_CND AND .OPTION_LIST<CND__> AND (.TSF_DRAFT_FLAG NEQ %C' '))      !
;     163     0290  3              OR (.GCA_CMD_ISQ AND .OPTION_LIST<ISQ__>)
;     164     0291  3              OR (.GCA_CMD_OSQ AND .OPTION_LIST<OSQ__>)
;     165     0292  2          THEN
;     166     0293  2          !Change bars or sequence number or draft flag requested.
;     167     0294  3              BEGIN
;     168     0295  3
;     169     0296  3              IF   .GCA_CMD_RIT                  !(This won't get done for blank lines to which nothing else applies)
;     170     0297  3              THEN
;     171     0298  3              !Shift output to the right, as requested.
;     172     0299  3
;     173     0300  3                  INCR I FROM 1 TO .PHAN_RIGHT DO
;     174     0301  3                      FS_WCHAR (FRA, %C' ');
;     175     0302  3
;     176     0303  3              IF .gca_cmd_isq THEN                        ! User said:  /SEQUENCE.
;     177     0304  3                  iseque (.option_list<isq__>);
;     178     0305  3
;     179     0306  3              IF .gca_cmd_osq THEN                        ! User said:
;     180     0307  3                  oseque (.option_list<osq__>);           ! /DEC_INTERNAL=OUTPUT_LINE_NUMBER
;     181     0308  3
;     182     0309  3              IF   .GCA_DEBUG_CND
;     183     0310  3              THEN
;     184     0311  3              !Output the draft flag.
;     185     0312  4                  BEGIN
;     186     0313  4                  FS_WCHAR (FRA, %C' ');!Single space before draft flag.
;     187     0314  4
;     188     0315  4                  IF   .OPTION_LIST<CND__>
;     189     0316  4                  THEN
;     190     0317  4                      !User wants to see the draft flag, output it.
;     191     0318  5                      FS_WCHAR (FRA, .TSF_DRAFT_FLAG)
;     192     0319  4                  ELSE
;     193     0320  4                      !User does not want to see the draft flag, output a space.
;     194     0321  4                      FS_WCHAR (FRA, %C' ');
;     195     0322  4
;     196     0323  4                  FS_WCHAR (FRA, %C' ');!Single space after draft flag.
;     197     0324  3                  END;
;     198     0325  3
;     199     0326  3              !Process change bar field.
;     200     0327  4              IF   (.BARS                            !Change bars wanted?
;     201     0328  4                  AND .OPTION_LIST<BAR__>)
;     202     0329  3                  OR
;     203     0330  4                  (.GCA_EVER_BARS                    !Change bars ever seen?
;     204     0331  4                   AND NOT .BLANK_LINE)              !In this case output something.
;     205     0332  3              THEN
;     206     0333  4                  BEGIN
;     207     0334  4
;     208     0335  4                  !Output the change bar.
;  209          0336  5             IF  NOT (.OPTION_LIST<BAR__> AND .BARS)
;  210          0337  4             THEN
;  211          0338  4                 !Don't want change bar at all.
;  212          0339  5                 FS_WCHAR (FRA, %C' ')
;  213          0340  4             ELSE
;  214          0341  4                 FS_WCHAR (FRA, .TSF_BAR_CHAR);
;  215          0342  4
;  216          0343  4             FS_WCHAR (FRA, %C' ');      !Two spaces after the change bar field.
;  217          0344  4             FS_WCHAR (FRA, %C' ');
;  218          0345  3             END;
;  219          0346  3
;  220          0347  2         END;
;  221          0348  2
;  222          0349  1     END;                                        !End of LSTOPS


                                                                          .TITLE  LSTOPS O/P text to left of document
                                                                          .IDENT  \V04-000\

                                                                          .EXTRN  FRA, GCA, PHAN, TSF
                                                                          .EXTRN  CONVBB

                                                                          .PSECT  $CODE$,NOWRT,2

                                                       003C 00000         .ENTRY  LSTOPS, Save R2,R3,R4,R5                     ; 0223
                                       55 00000000G EF   9E 00002         MOVAB   TSF, R5                                      ;
                                       54 00000000G EF   9E 00009         MOVAB   GCA+76, R4                                   ;
                                       53 00000000G EF   9E 00010         MOVAB   FRA+4, R3                                    ;
                                       06        08 AC   E9 00017         BLBC    BLANK_LINE, 1$                               ; 0268
                                                 04 AC   D5 0001B         TSTL    OPTION_LIST                                  ; 0272
                                                    01   12 0001E         BNEQ    1$                                           ;
                                                         04 00020         RET                                                  ;
                                       50           65   D0 00021 1$:     MOVL    TSF, R0                                      ; 0282
                                       08        08 AC   E9 00024         BLBC    BLANK_LINE, 2$                               ;
           52      7C   A0             01           00   EF 00028         EXTZV   #0, #1, 124(R0), BARS                        ;
                                                    07   11 0002E         BRB     3$                                           ;
           52    0080   C0             01           00   EF 00030 2$:     EXTZV   #0, #1, 128(R0), BARS                        ; 0285
                                       2B        08 AC   E9 00037 3$:     BLBC    BLANK_LINE, 8$                               ; 0287
                                       04           52   E9 0003B         BLBC    BARS, 4$                                     ; 0288
                                       24        04 AC   E8 0003E         BLBS    OPTION_LIST, 8$                              ;
                         0B       28   A4           02   E1 00042 4$:     BBC     #2, GCA+116, 5$                              ; 0289
                         06       04   AC           01   E1 00047         BBC     #1, OPTION_LIST, 5$                          ;
                                       20        30 A0   D1 0004C         CMPL    48(R0), #32                                  ;
                                                    14   12 00050         BNEQ    8$                                           ;
                         05            64           02   E1 00052 5$:     BBC     #2, GCA+76, 6$                               ; 0290
                         0B       04   AC           02   E0 00056         BBS     #2, OPTION_LIST, 8$                          ;
                         01            64           04   E0 0005B 6$:     BBS     #4, GCA+76, 7$                               ; 0291
                                                         04 0005F         RET                                                  ;
                         01       04   AC           04   E0 00060 7$:     BBS     #4, OPTION_LIST, 8$                          ;
                                                         04 00065         RET                                                  ;
                         15            64           03   E1 00066 8$:     BBC     #3, GCA+76, 11$                              ; 0296
                                                    50   D4 0006A         CLRL    I                                            ; 0300
                                                    09   11 0006C         BRB     10$                                          ;
                                  00   B3           20   90 0006E 9$:     MOVB    #32, @FRA+4                                  ; 0301
                                                    63   D6 00072         INCL    FRA+4                                        ;
                                                 08 A3   D6 00074         INCL    FRA+12                                       ;
                         EF            50 00000000G EF   F3 00077 10$:    AOBLEQ  PHAN+20, I, 9$                               ; 0300
```

```
                    0D            64          02  E1 0007F 11$:   BBC     #2, GCA+76, 12$                        ; 0303
      7E       04   AC            01          02  EF 00083        EXTZV   #2, #1, OPTION_LIST, -(SP)             ; 0304
                       00000000V  EF          01  FB 00089        CALLS   #1, ISEQUE                             ;
                    0D            64          04  E1 00090 12$:   BBC     #4, GCA+76, 13$                        ; 0306
      7E       04   AC            01          04  EF 00094        EXTZV   #4, #1, OPTION_LIST, -(SP)             ; 0307
                       00000000V  EF          01  FB 0009A        CALLS   #1, OSEQUE                             ;
                    2A        28  A4          02  E1 000A1 13$:   BBC     #2, GCA+116, 16$                       ; 0309
                              00  B3          20  90 000A6        MOVB    #32, @FRA+4                            ; 0313
                                              63  D6 000AA        INCL    FRA+4                                  ;
                                        08    A3  D6 000AC        INCL    FRA+12                                 ;
                    0A        04  AC          01  E1 000AF        BBC     #1, OPTION_LIST, 14$                   ; 0315
                                  50          65  D0 000B4        MOVL    TSF, R0                                ; 0318
                              00  B3    30    A0  90 000B7        MOVB    48(R0), @FRA+4                         ;
                                              04  11 000BC        BRB     15$                                    ;
                              00  B3          20  90 000BE 14$:   MOVB    #32, @FRA+4                            ; 0321
                                              63  D6 000C2 15$:   INCL    FRA+4                                  ;
                                        08    A3  D6 000C4        INCL    FRA+12                                 ; 0318
                              00  B3          20  90 000C7        MOVB    #32, @FRA+4                            ; 0323
                                              63  D6 000CB        INCL    FRA+4                                  ;
                                        08    A3  D6 000CD        INCL    FRA+12                                 ;
                                  04          52  E9 000D0 16$:   BLBC    BARS, 17$                              ; 0327
                                  0C    04    AC  E8 000D3        BLBS    OPTION_LIST, 18$                       ; 0328
                                  30    D4    A4  E9 000D7 17$:   BLBC    GCA+32, 22$                            ; 0330
                                  2C    08    AC  E8 000DB        BLBS    BLANK_LINE, 22$                        ; 0331
                                  03    04    AC  E9 000DF        BLBC    OPTION_LIST, 19$                       ; 0336
                                  06          52  E8 000E3 18$:   BLBS    BARS, 20$                              ;
                              00  B3          20  90 000E6 19$:   MOVB    #32, @FRA+4                            ; 0339
                                              08  11 000EA        BRB     21$                                    ;
                                  50          65  D0 000EC 20$:   MOVL    TSF, R0                                ; 0341
                              00  B3    1C    A0  90 000EF        MOVB    28(R0), @FRA+4                         ;
                                              63  D6 000F4 21$:   INCL    FRA+4                                  ;
                                        08    A3  D6 000F6        INCL    FRA+12                                 ; 0339
                              00  B3          20  90 000F9        MOVB    #32, @FRA+4                            ; 0343
                                              63  D6 000FD        INCL    FRA+4                                  ;
                                        08    A3  D6 000FF        INCL    FRA+12                                 ;
                              00  B3          20  90 00102        MOVB    #32, @FRA+4                            ; 0344
                                              63  D6 00106        INCL    FRA+4                                  ;
                                        08    A3  D6 00108        INCL    FRA+12                                 ;
                                                  04 0010B 22$:   RET                                            ; 0349

; Routine Size:  268 bytes,    Routine Base:  $CODE$ + 0000


;  223          0350  1
```

```
1 %SBTTL 'ISEQUE -- O/P seq. number or spaces'
1 ROUTINE iseque (sequence) : NOVALUE =
1
1 !++
1 ! FUNCTIONAL DESCRIPTION:
1 !
1 !       ISEQUE either generates the input sequence number on the record, or
1 !       else fills the spot with spaces.
1 !
1 ! FORMAL PARAMETERS:
1 !
1 !       If SEQUENCE is TRUE, the sequence number is provided; if FALSE,
1 !       the spot is space filled.
1 !
1 ! IMPLICIT INPUTS:
1 !
1 !       It is assumed that FRA is set up to point to the area where
1 !       the sequence number is to go.
1 !
1 ! IMPLICIT OUTPUTS:     None
1 !
1 ! ROUTINE VALUE:
1 ! COMPLETION CODES:     None
1 !
1 ! SIDE EFFECTS:         None
1 !--
1
2       BEGIN
2
2       IF  NOT .SEQUENCE
2       THEN
2       !Caller doesn't want sequence numbers though.
2       !Fill sequence number field with spaces.
2
2           INCR I FROM 1 TO 11 DO
3               FS_WCHAR (FRA, %C' ')
3
2       ELSE
2       !Caller does want the sequence numbers.
3           BEGIN
3           LOCAL
3               FILL,
3               KHARS : VECTOR [10],
3               KHAR_COUNT;
3
3           CONVBB (.TSF_ISEQN, KHARS, KHAR_COUNT, 10);      !Convert input sequence number to character.
3
3           !For honest-to-goodness
3           IF  .TSF_SEQN_FLAG                             !SOS style sequence numbers
3           THEN                                           !zero-fill on the left.
3               FILL = %C'0'
3           ELSE                                           !Otherwise,
3               FILL = %C' ';                              !space-fill the record counter.
3
3           INCR I FROM 1 TO (5 - .KHAR_COUNT) DO   !Put in fill characters (spaces or '0's)
3               FS_WCHAR (FRA, .FILL);
3
```

```
;  282          0408  3          DECR I FROM .KHAR_COUNT TO 1 DO              !Output record/sequence number.
;  283          0409  3              FS_WCHAR (FRA, .KHARS [.I - 1]);
;  284          0410  3
;  285          0411  3          FS_WCHAR (FRA, %C'/');                       !Slash separating line and page numbers.
;  286          0412  3          CONVBB (.TSF_IPAGEN, KHARS, KHAR_COUNT, 10);     !Convert page number.
;  287          0413  3
;  288          0414  3          INCR I FROM 1 TO (3 - .KHAR_COUNT) DO     !Pad page counter.
;  289          0415  3              FS_WCHAR (FRA, %C' ');
;  290          0416  3
;  291          0417  3          DECR I FROM .KHAR_COUNT TO 1 DO              !Output page number.
;  292          0418  3              FS_WCHAR (FRA, .KHARS [.I - 1]);
;  293          0419  3
;  294          0420  3          FS_WCHAR (FRA, %C' ');                       !Two spaces before whatever follows.
;  295          0421  3          FS_WCHAR (FRA, %C' ');
;  296          0422  2          END;
;  297          0423  2
;  298          0424  1      END;                                             !End of ISEQUE



                                        007C  00000  ISEQUE: .WORD    Save R2,R3,R4,R5,R6                        ; 0352
                   56 00000000G    EF    9E  00002           MOVAB    CONVBB, R6                                 ;
                   55 00000000G    EF    9E  00009           MOVAB    TSF, R5                                    ;
                   54 00000000G    EF    9E  00010           MOVAB    FRA+4, R4                                  ;
                   5E              2C    C2  00017           SUBL2    #44, SP                                    ;
                   11        04    AC    E8  0001A           BLBS     SEQUENCE, 2$                               ; 0380
                   50              01    D0  0001E           MOVL     #1, I                                      ; 0385
              00   B4              20    90  00021  1$:      MOVB     #32, @FRA+4                                ; 0386
                                   64    D6  00025           INCL     FRA+4                                      ;
                             08    A4    D6  00027           INCL     FRA+12                                     ;
        F3         50              0B    F3  0002A           AOBLEQ   #11, I, 1$                                 ; 0385
                                         04  0002E           RET                                                 ;
                                   0A    DD  0002F  2$:      PUSHL    #10                                        ; 0396
                             04    AE    9F  00031           PUSHAB   KHAR_COUNT                                 ;
                             0C    AE    9F  00034           PUSHAB   KHARS                                      ;
                   50              65    D0  00037           MOVL     TSF, R0                                    ;
                             48    A0    DD  0003A           PUSHL    72(R0)                                     ;
                   66              04    FB  0003D           CALLS    #4, CONVBB                                 ;
                   51              65    D0  00040           MOVL     TSF, R1                                    ; 0399
                   05        10    A1    E9  00043           BLBC     16(R1), 3$                                 ;
                   53              30    D0  00047           MOVL     #48, FILL                                  ; 0401
                                   03    11  0004A           BRB      4$                                         ;
                   53              20    D0  0004C  3$:      MOVL     #32, FILL                                  ; 0403
        50         05              6E    C3  0004F  4$:      SUBL3    KHAR_COUNT, #5, R0                         ; 0405
                                   52    D4  00053           CLRL     I                                          ; 0406
                                   09    11  00055           BRB      6$                                         ;
              00   B4              53    90  00057  5$:      MOVB     FILL, @FRA+4                               ;
                                   64    D6  0005B           INCL     FRA+4                                      ;
                             08    A4    D6  0005D           INCL     FRA+12                                     ;
        F3         52              50    F3  00060  6$:      AOBLEQ   R0, I, 5$                                  ; 0405
        50         6E              01    C1  00064           ADDL3    #1, KHAR_COUNT, I                          ; 0408
                                   0A    11  00068           BRB      8$                                         ;
              00   B4            6E40    F6  0006A  7$:      CVTLB    KHARS-4[I], @FRA+4                         ; 0409
                                   64    D6  0006F           INCL     FRA+4                                      ;
                             08    A4    D6  00071           INCL     FRA+12                                     ;
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          F3           50 F5 00074 8$:    SOBGTR  I, 7$                                ; 0408
     00   B4           2F 90 00077        MOVB    #47, @FRA+4                          ; 0411
                       64 D6 0007B        INCL    FRA+4                                ;
                  08   A4 D6 0007D        INCL    FRA+12                               ;
                       0A DD 00080        PUSHL   #10                                  ; 0412
                  04   AE 9F 00082        PUSHAB  KHAR_COUNT                           ;
                  0C   AE 9F 00085        PUSHAB  KHARS                                ;
                  4C   A1 DD 00088        PUSHL   76(R1)                               ;
          66           04 FB 0008B        CALLS   #4, CONVBB                           ;
50        03           6E C3 0008E        SUBL3   KHAR_COUNT, #3, R0                   ; 0414
                       51 D4 00092        CLRL    I                                    ;
                       09 11 00094        BRB     10$                                  ;
     00   B4           20 90 00096 9$:    MOVB    #32, @FRA+4                          ; 0415
                       64 D6 0009A        INCL    FRA+4                                ;
                  08   A4 D6 0009C        INCL    FRA+12                               ;
F3        51           50 F3 0009F 10$:   AOBLEQ  R0, I, 9$                            ; 0414
50        6E           01 C1 000A3        ADDL3   #1, KHAR_COUNT, I                    ; 0417
                       0A 11 000A7        BRB     12$                                  ;
     00   B4         6E40 F6 000A9 11$:   CVTLB   KHARS-4[I], @FRA+4                   ; 0418
                       64 D6 000AE        INCL    FRA+4                                ;
                  08   A4 D6 000B0        INCL    FRA+12                               ;
          F3           50 F5 000B3 12$:   SOBGTR  I, 11$                               ; 0417
     00   B4           20 90 000B6        MOVB    #32, @FRA+4                          ; 0420
                       64 D6 000BA        INCL    FRA+4                                ;
                  08   A4 D6 000BC        INCL    FRA+12                               ;
     00   B4           20 90 000BF        MOVB    #32, @FRA+4                          ; 0421
                       64 D6 000C3        INCL    FRA+4                                ;
                  08   A4 D6 000C5        INCL    FRA+12                               ;
                          04 000C8        RET                                          ; 0424

; Routine Size:  201 bytes,    Routine Base:  $CODE$ + 010C
;  300      0425  1 %SBTTL 'OSEQUE -- O/P O/P line number or spaces'
;  301      0426  1 ROUTINE oseque (sequence) : NOVALUE =
;  302      0427  1
;  303      0428  1 !++
;  304      0429  1 ! FUNCTIONAL DESCRIPTION:
;  305      0430  1 !
;  306      0431  1 !       OSEQUE either generates the output line number on the record, or
;  307      0432  1 !       else fills the spot with spaces.
;  308      0433  1 !
;  309      0434  1 ! FORMAL PARAMETERS:
;  310      0435  1 !
;  311      0436  1 !       If SEQUENCE is TRUE, the sequence number is provided; if FALSE,
;  312      0437  1 !       the spot is space filled.
;  313      0438  1 !
;  314      0439  1 ! IMPLICIT INPUTS:
;  315      0440  1 !
;  316      0441  1 !       It is assumed that FRA is set up to point to the area where
;  317      0442  1 !       the sequence number is to go.
;  318      0443  1 !
;  319      0444  1 ! IMPLICIT OUTPUTS:      None
;  320      0445  1 !
;  321      0446  1 ! ROUTINE VALUE:
;  322      0447  1 ! COMPLETION CODES:      None
;  323      0448  1 !
;  324      0449  1 ! SIDE EFFECTS:          None
;  325      0450  1 !--
;  326      0451  1
;  327      0452  2     BEGIN
;  328      0453  2
;  329      0454  2     IF  NOT .sequence THEN
;  330      0455  2
;  331      0456  2     !Caller doesn't want line numbers, so fill line number field with spaces.
;  332      0457  2
;  333      0458  2         IF .diag2_14 THEN
;  334      0459  3             INCR i FROM 1 TO 10 DO FS_WCHAR (fra, %C' ')
;  335      0460  2         ELSE
;  336      0461  3             INCR i FROM 1 TO 5 DO FS_WCHAR (fra, %C' ')
;  337      0462  3
;  338      0463  2     ELSE            !Caller does want the sequence numbers.
;  339      0464  3         BEGIN
;  340      0465  3         LOCAL
;  341      0466  3             fill,
;  342      0467  3             khars : VECTOR [10],
;  343      0468  3             khar_count;
;  344      0469  3
;  345      0470  3         ! For honest-to-goodness SOS style sequence numbers:
;  346      0471  3
;  347      0472  3         IF  .TSF_SEQN_FLAG
;  348      0473  3         THEN                                    ! zero-fill on the left.
;  349      0474  3             FILL = %C'0'
;  350      0475  3         ELSE                                    ! Otherwise,
;  351      0476  3             FILL = %C' ';                       ! space-fill the record counter.
;  352      0477  3
;  353      0478  3         IF .diag2_14 THEN
;  354      0479  4             BEGIN
;  355      0480  5             CONVBB ( (.gca_page_cnt + 1)    ! Convert "real" page number.
;  356      0481  4                     ,khars
;   357         0482  4                       ,khar_count
;   358         0483  4                       ,10 );
;   359         0484  4
;   360         0485  4             INCR i FROM 1 TO (4 - .khar_count) DO        !Pad page counter.
;   361         0486  4                 FS_WCHAR (fra, %C' ');
;   362         0487  4
;   363         0488  4             DECR i FROM .khar_count TO 1 DO      !Output page number.
;   364         0489  4                 FS_WCHAR (fra, .khars [.i - 1]);
;   365         0490  4
;   366         0491  5             FS_WCHAR (fra, %C'.')                      ! Dot separating line and page numbers.
;   367         0492  3             END;
;   368         0493  3
;   369         0494  3         CONVBB ( .phan_lines_tp+1    ! Convert line number to character string
;   370         0495  3                 ,khars
;   371         0496  3                 ,khar_count
;   372         0497  3                 ,10 );
;   373         0498  3
;   374         0499  3         INCR i FROM 1 TO (3 - .khar_count) DO   !Put in fill characters (spaces or '0's)
;   375         0500  3             FS_WCHAR (fra, .fill);
;   376         0501  3
;   377         0502  3         DECR i FROM .khar_count TO 1 DO         !Output line number.
;   378         0503  3             FS_WCHAR (fra, .khars [.i - 1]);
;   379         0504  3
;   380         0505  3         FS_WCHAR (fra, %C' ');                  !Two spaces before whatever follows.
;   381         0506  3         FS_WCHAR (fra, %C' ');
;   382         0507  2         END;
;   383         0508  2
;   384         0509  1     END;                                        !End of OSEQUE




                                            003C 00000 OSEQUE: .WORD    Save R2,R3,R4,R5                          ; 0426
                     55 00000000G   EF   9E 00002          MOVAB    CONVBB, R5                                ;
                     54 00000000G   EF   9E 00009          MOVAB    GCA+216, R4                               ;
                     53 00000000G   EF   9E 00010          MOVAB    FRA+4, R3                                 ;
                     5E             2C   C2 00017          SUBL2    #44, SP                                   ;
                     27         04  AC   E8 0001A          BLBS     SEQUENCE, 4$                              ; 0454
         11      01  A4             06   E1 0001E          BBC      #6, GCA+217, 2$                           ; 0458
                     50             01   D0 00023          MOVL     #1, I                                     ; 0459
                 00  B3             20   90 00026 1$:      MOVB     #32, @FRA+4                               ;
                                    63   D6 0002A          INCL     FRA+4                                     ;
                                08  A3   D6 0002C          INCL     FRA+12                                    ;
         F3          50             0A   F3 0002F          AOBLEQ   #10, I, 1$                                ;
                                         04 00033          RET                                                ;
                     50             01   D0 00034 2$:      MOVL     #1, I                                     ; 0461
                 00  B3             20   90 00037 3$:      MOVB     #32, @FRA+4                               ;
                                    63   D6 0003B          INCL     FRA+4                                     ;
                                08  A3   D6 0003D          INCL     FRA+12                                    ;
         F3          50             05   F3 00040          AOBLEQ   #5, I, 3$                                 ;
                                         04 00044          RET                                                ; 0458
                     50 00000000G   EF   D0 00045 4$:      MOVL     TSF, R0                                   ; 0472
                     05         10  A0   E9 0004C          BLBC     16(R0), 5$                                ;
                     52             30   D0 00050          MOVL     #48, FILL                                 ; 0474
                                    03   11 00053          BRB      6$                                        ;
                     52             20   D0 00055 5$:      MOVL     #32, FILL                                 ; 0476
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                        41      01      A4                06  E1 00058 6$:   BBC     #6, GCA+217, 11$              ; 0478
                                                          0A  DD 0005D       PUSHL   #10                           ; 0480
                                                04        AE  9F 0005F       PUSHAB  KHAR_COUNT                    ;
                                                0C        AE  9F 00062       PUSHAB  KHARS                         ;
                        7E      80      A4                01  C1 00065       ADDL3   #1, GCA+88, -(SP)             ;
                                        65                04  FB 0006A       CALLS   #4, CONVBB                    ;
                        50              04                6E  C3 0006D       SUBL3   KHAR_COUNT, #4, R0            ; 0485
                                                          51  D4 00071       CLRL    I                             ;
                                                          09  11 00073       BRB     8$                            ;
                                00      B3                20  90 00075 7$:   MOVB    #32, @FRA+4                   ; 0486
                                                          63  D6 00079       INCL    FRA+4                         ;
                                                08        A3  D6 0007B       INCL    FRA+12                        ;
                        F3              51                50  F3 0007E 8$:   AOBLEQ  R0, I, 7$                     ; 0485
                        50              6E                01  C1 00082       ADDL3   #1, KHAR_COUNT, I             ; 0488
                                                          0A  11 00086       BRB     10$                           ;
                                00      B3              6E40  F6 00088 9$:   CVTLB   KHARS-4[I], @FRA+4            ; 0489
                                                          63  D6 0008D       INCL    FRA+4                         ;
                                                08        A3  D6 0008F       INCL    FRA+12                        ;
                                        F3                50  F5 00092 10$:  SOBGTR  I, 9$                         ; 0488
                                00      B3                2E  90 00095       MOVB    #46, @FRA+4                   ; 0491
                                                          63  D6 00099       INCL    FRA+4                         ;
                                                08        A3  D6 0009B       INCL    FRA+12                        ;
                                                          0A  DD 0009E 11$:  PUSHL   #10                           ; 0494
                                                04        AE  9F 000A0       PUSHAB  KHAR_COUNT                    ;
                                                0C        AE  9F 000A3       PUSHAB  KHARS                         ;
                        7E 00000000G    EF                01  C1 000A6       ADDL3   #1, PHAN+12, -(SP)            ;
                                        65                04  FB 000AE       CALLS   #4, CONVBB                    ;
                        50              03                6E  C3 000B1       SUBL3   KHAR_COUNT, #3, R0            ; 0499
                                                          51  D4 000B5       CLRL    I                             ; 0500
                                                          09  11 000B7       BRB     13$                           ;
                                00      B3                52  90 000B9 12$:  MOVB    FILL, @FRA+4                  ;
                                                          63  D6 000BD       INCL    FRA+4                         ;
                                                08        A3  D6 000BF       INCL    FRA+12                        ;
                        F3              51                50  F3 000C2 13$:  AOBLEQ  R0, I, 12$                    ; 0499
                        50              6E                01  C1 000C6       ADDL3   #1, KHAR_COUNT, I             ; 0502
                                                          0A  11 000CA       BRB     15$                           ;
                                00      B3              6E40  F6 000CC 14$:  CVTLB   KHARS-4[I], @FRA+4            ; 0503
                                                          63  D6 000D1       INCL    FRA+4                         ;
                                                08        A3  D6 000D3       INCL    FRA+12                        ;
                                        F3                50  F5 000D6 15$:  SOBGTR  I, 14$                        ; 0502
                                00      B3                20  90 000D9       MOVB    #32, @FRA+4                   ; 0505
                                                          63  D6 000DD       INCL    FRA+4                         ;
                                                08        A3  D6 000DF       INCL    FRA+12                        ;
                                00      B3                20  90 000E2       MOVB    #32, @FRA+4                   ; 0506
                                                          63  D6 000E6       INCL    FRA+4                         ;
                                                08        A3  D6 000E8       INCL    FRA+12                        ;
                                                              04 000EB       RET                                   ; 0509

; Routine Size:  236 bytes,    Routine Base:  $CODE$ + 01D5


;  385          0510  1 END                                   !End of module
;  386          0511  0 ELUDOM
;                                 PSECT SUMMARY
;
;       Name                      Bytes                     Attributes
;
;  $CODE$                              705  NOVEC,NOWRT,  RD ,  EXE,NOSHR,  LCL,  REL,  CON,NOPIC,ALIGN(2)




;                             Library Statistics
;
;                                              -------- Symbols --------        Pages       Processing
;       File                                   Total    Loaded   Percent        Mapped      Time
;
;  _$255$DUA28:[SYSLIB]XPORT.L32;1               590         0         0          252         00:00.2
;  _$255$DUA28:[RUNOFF.SRC]DSRLIB.L32;1         1248        36         2           86         00:00.3





;                                  COMMAND QUALIFIERS
;
;       BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/LIS=LIS$:LSTOPS/OBJ=OBJ$:LSTOPS MSRC$:LSTOPS/UPDATE=(ENH$:LSTOPS)

; Size:          705 code + 0 data bytes
; Run Time:         00:14.8
; Elapsed Time:     00:31.3
; Lines/CPU Min:     2070
; Lexemes/CPU-Min: 23983
; Memory Used:  111 pages
; Compilation Complete
```

0343 AH-BT13A-SE
VAX/VMS V4.0

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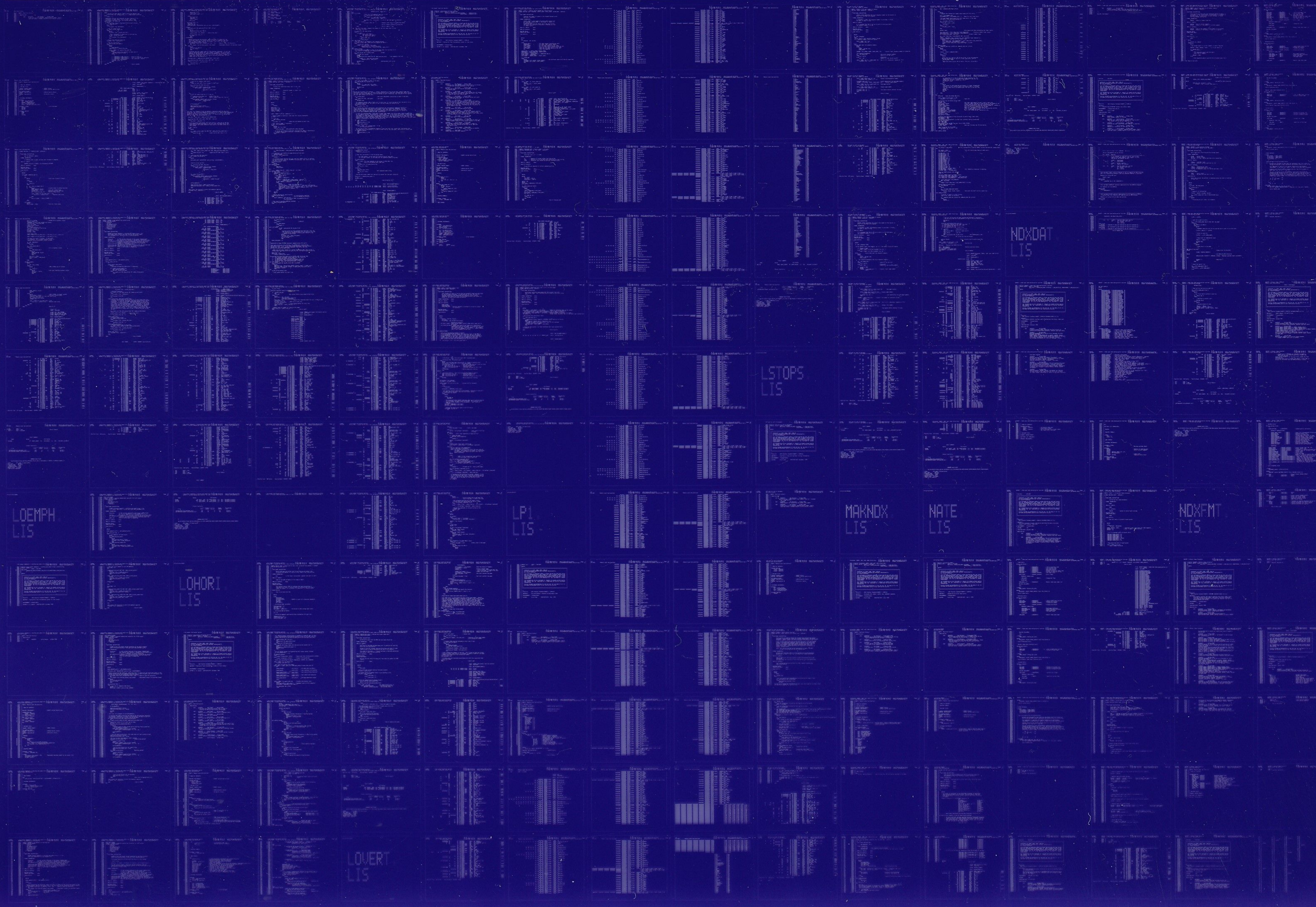

NDXDAT
LIS

LSTOPS
LIS

LOEMPH
LIS

LP1
LIS

MAKNDX
LIS

NATE
LIS

NDXFMT
LIS

LOHORI
LIS

LOVERT
LIS